

對於耿聶奔氏越南蘭科八屬的意見

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ON THE IDENTITY OF EIGHT GAGNEPAIN'S ORCHIDACEOUS GENERA FROM INDO-CHINA

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一九三二年越南植物誌主編耿聶奔氏在法京巴黎自然歷史國家博物院彙報中，發表越南蘭科八新屬一文。八新屬爲：*Allochilus*, *Anaphora*, *Donacopsis*, *Epigeneium*, *Eurardia*, *Parhabenaria*, *Semiphajus*, *Thylacis*。他在八新屬下記載了十三個新種。

越南和我國廣東，廣西，雲南接壤，其東京區又和海南島隔海相望，故它的植物和我國這些地區的植物，有着分不開的關係，所以治中國蘭科植物者對於這八新屬不能漠不關心，必須給以細心的觀察，並必須結合我國的植物，來作一個比較。在觀察這些新屬新種的歷程中，有着原記載和模式標本的方便，工作進行，極稱順利。就觀察結果，八新屬中，七屬爲我國共有，十三種中，六種分佈到中國。

在對八新屬寫作討論時，耿氏原記載的法文討論部份，得到林鎔教授不少寶貴的幫助，特此向林教授致以誠懇的謝意。

1. ALLOCHILUS

耿氏的 *Allochilus* 屬，實是 *Goodyera* 屬，因爲新屬具一個柱頭，唇瓣不具裂片，它和蕊柱不連生，花瓣或多或少合生，葯直立，花粉塊無柄，蕊喙兩叉，這些特點都說明新屬和 *Goodyera* 屬不能分開。因此，這新屬應爲 *Goodyera* 屬的異名。

新屬只有一新種，即 *Allochilus Eberhardtii* Gagnep, 等於 *Goodyera fumata* Thw, 我國台灣已見分佈。

2. ANAPHORA

耿氏把他的 *Anaphora* 屬和 *Liparis* 屬比較，是正確的，只因爲耿氏觀察錯誤，唇瓣原來不倒生，他誤認爲倒生，花粉塊四個，他誤認爲兩個。新屬實和 *Malaxis* 屬分不開，因爲它們的蕊柱短，葯和蕊柱連生之處比蕊喙爲低，唇瓣不倒生，這些特徵兩屬完全相同，所以這新屬應爲 *Malaxis* 屬的異名。

耿氏在記載這植物時，已有二次把它另定為 *Liparis* 屬中的兩新種，可見耿氏只有 *Liparis* 屬的不明確觀念，他對於 *Liparis* 屬極相近的 *Malaxis* 屬的區別更是模糊，以致犯此錯誤。因此，*Malaxis latifolia* J. E. Sm. 不僅應代替耿氏的 *Anaphora liparioides* 還應代替他的 *Liparis Krempfii* 和 *Liparis turfosa*。這種植物我國滇、粵、瓊、臺俱已有分佈。

3. DONACOPSIS

Donacopsis 屬的模式標本，是從兩個不倫不類的蘭科植物拼湊起來的。標本的一部份是 *Arundina* 屬的營養部份，另一部份是 *Eulophia* 屬的一個花。而且耿氏誤認 *Eulophia* 屬的二個花粉塊為四個，遂更易使他將錯就錯，武斷為新屬而不自知。耿氏 *Donacopsis laotica* 的一部份即是 *Arundina chinensis* Bl.，它在中國分佈很普遍，粵、港、桂、閩、台、贛、黔、滇、川皆產。

4. EPIGENEUM

據耿氏說 *Epigeneium* 屬的特徵在側萼片和花瓣長在蕊柱跟上，具單生花，有佛焰狀苞片，具長根莖，在根莖上有很多假球莖，這些特點正表現它屬於 *Sarcopodium* 屬，故作者把新屬降為 *Sarcopodium* 屬的異名之下。他記載了四新種，其中 *Sarcopodium Fargesii* (Finet) Tang et Wang 產我國四川城口縣。

5. EVRARDIA

耿氏在這新屬之下，臆舉了二點：（一）他認為蕊柱上三角形狹長漸尖的東西是藥床，（二）新月形的東西是藥床附屬器；實則前者是蕊喙，後者是蕊柱的附屬器。這二部份正是 *Hetaeria* 屬所特有。而且 *Hetaeria* 本有二類，一類營獨立生活，而有綠葉，一類不能營獨立生活，無綠葉。唇瓣不倒生，藥直立，也都是 *Hetaeria* 的特點，而不能把新屬孤立於 *Hetaeria* 之外，獨成一新屬。故 *Evrardia Poilanei* Gagnep. 應當是 *Hetaeria Poilanei* (Gagnep.) Tang et Wang。中國不產此種，但這屬我國已見分佈。

6. PARHABENARIA

Parhabenaria 屬的模式標本沒有根，只有一朵脫落的花，沒有花粉塊，柱頭又不清楚，故很難確定新屬的關係，但就花的外貌和蕊喙的形狀而論，新屬可能有理由成立。新屬新種只產越南，我國不產。

7. SEMIPHAJUS

Semiphajus 屬乃是 *Eulophia* 屬，因為耿氏看到四個花粉塊，實際是二個花粉塊之誤。耿氏把新屬和 *Phajus* 屬比較，實際上 *Phajus* 的蕊柱和唇瓣連生，而它在 *Eulophia* 屬中，是離生，二屬之間，有很遠距離，故新屬不能和 *Phajus* 屬併為一談，比較關係。耿氏的 *Semiphajus Chevalieri* 乃是 *Eulophia nuda* Ldl.，我國雲南亦產。*Semiphajus Evrardii* 乃是 *Eulophia yunnanensis* Rolfe，原產我國雲南。

8. THYLACIS

耿氏的錯誤, 在於他把新屬和石斛屬 (*Dendrobium*) 比較, 把花的唇瓣和口袋蘭屬 (*Cypripedium*) 比較。實際上石斛屬具有假球莖狀的莖, 口袋蘭屬的袋為唇瓣的本體; 而新屬的莖不為假球莖狀, 唇瓣有顯明囊狀的距, 故新屬不能和它們相提並論。新屬實是 *Thrixspermum* 屬, 只因爲它的蕊柱有顯著的蕊柱跟, 又有二個中空或二裂的花粉塊, 每室分配一個之故。耿氏 *Thylacis Fleuryi* 應改爲 *Thrixspermum Fleuryi* (Gagnep.) Tang et Wang, *Thylacis Poilanei* 應改爲 *Thrixspermum Poilanei* (Gagnep.) Tang et Wang, 我國不產, 但 *Thrixspermum* 屬我國已見分佈。

In 1932, Dr. F. Gagnepain, chief editor of the Flore Générale de l'Indo-chine, published a paper entitled "Huit Genres Nouveaux d'Orchidées Indochinoises" in the Bulletin du Muséum National d'histoire naturelle 2^e ser. 4:591-601. The eight genera, viz.: *Allochilus*, *Anaphora*, *Donacopsis*, *Epigeneium*, *Eurardia*, *Parhabenaria*, *Semiphaeus* and *Thylacis* include thirteen species. In the course of examining the type specimens of these genera the authors were benefited considerably by the original descriptions, discussions of the relationships and the figures in Fl. Gén. l'Indo-chine. In the present discussion the original sequence of these genera is retained for the convenience of reviewing by orchidologists. In the following pages each of the eight genera is individually treated as to the relationship and the characters of the genus. The citations concerning the genus and the species, and the specimens observed by the authors are also noted. Appended to the specimens examined by the authors abbreviations of the herbaria where the specimens are deposited remain the same as used in the authors' previous paper on page 55 of this year's issue.

1. ALLOCHILUS Gagnep.

Dr. Gagnepain was correct in placing *Allochilus* in the tribe Neottiae and was also correct in comparing it with the genera, *Haemaria* Ldl., *Macodes* Bl., *Hylophila* Ldl., *Lepidogyne* Bl., and *Hetaeria* Bl., as they all belong to the same subtribe *Physureae*.

According to his description and discussions the genus is characterized by the petiolate non-maculate leaves, the much short bracts, the posterior sepal coherent and forming a hood with the petals which are not connate at the base, the trilobed superior lip destitute of both basal and marginal callosities, the elongated column destitute of erect wings and the stigma absent of either scales or two crests. Except the lip which was seen in the type specimen being truly inferior (or resupinate) and not lobed but being abruptly contracted into a ligulate tail which is precisely in concordance with his description, as "lobis lateralibus vix prominentibus, obtusis; lobo terminale lineari., obtusissimo", these points are sufficient to warrant the genus to be congeneric with *Goodyera* R. Br., and *Allochilus Eberhardtii* to be conspecific with *Goodyera fumata* Thw.

Goodyera has a close affinity with *Lepidogyne* Bl. which Gagnepain considered to be one of the associated genera to his *Allochilus*. They are similar in the lip being not contracted into epichilum and hypochilum, and not adnate to the column, the lateral sepals being free from the spur, pollinia being absent of caudicle, rostellum being 2-forked

and the stigma being single, but differ from each other in the lip of *Goodyera* being non-lobed, petals more or less connate, and the stigma being non-appendaged in contrast with the tri-lobed lip, free petals and the emarginate basal appendage surrounding the stigma of *Lepidogyne*. The relationship between *Goodyera* and *Hetaeria* is rather far, as the single stigma in the former is fundamentally different from the two lateral stigmas of the latter. *Goodyera* is similar to *Macodes* in the 2-forked rostellum and the lateral sepals being free from the spur, but the sessile pollinia and normal lip show marked difference from the stalked (i.e. with caudicle) pollinia and the lip contracted into epichilum and hypochilum of the latter. *Haemaria* is similar to *Goodyera* in the single stigma and in the sessile pollinia, but differs from the latter in the lip adnate to the column and contracted into epichilum and hypochilum. *Hylophila* is similar to *Goodyera* in the single stigma and the lip being not contracted into epichilum and hypochilum, but differs from the latter in the lip being adnate to the column and the stalked pollinia.

The synonymy of the plant is as follows:

Goodyera R. Br. ex Ait., Hort. Kew. ed. 2. 5: 197 (1813).

Allochilus Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 591 (1932); in Fl. Gén. l'Indo-chine 6: 564 (1933).

Goodyera fumata Thw., Enum. Pl. Zeyl. 314 (1861).

Goodyera formosana Rolfe in Ann. Bot. 9: 159 (1895), **syn. nov.**

Allochilus Eberhardtii Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 591 (1932); in Fl. Gén. l'Indo-chine 6: 564, fig. 53, 2-9 (1933), **syn. nov.**

Ceylon: Central Province, rare, *Thwaites*, C. P. no. 3668 (**cotype** of *G. fumata*, **K**).

Formosa: Bankinseng mountains, flowers whitish, *A. Henry* no. 409 (**type** of *G. formosana*, **K**); Yunnan: Szemao, *A. Henry* no. 13005 (**K**).

Tonkin: Chu-bo, prov. de Bac-Kan, *Eberhardt* no. 4701 (**type** of *All. Eberhardtii*, **P**) et à Siam-Khong, même prov., *Eberhardt* no. 4633 (**type** of *All. Eberhardtii*, **P**).

2. ANAPHORA Gagnep.

It was correct that the author placed the genus near *Liparis* Richard. Having examined the type specimen the authors determined that the genus is no doubt congeneric with *Malaxis*, and the number of pollinia is really four, and the lip is really non-resupinate (or superior). These two characters were mistaken by Gagnepain who observed the number of pollinia being two and the lip being resupinate. His conception of *Malaxis* was dim and the distinction between *Malaxis* and *Liparis* was confused with the fact that he had twice proposed as new species of *Liparis* the same plant and established on the third occasion a new genus and new species which are now in question.

Malaxis differs from *Liparis* in the short column, the junction of the anther to the column being lower than the rostellum and the lip being non-resupinate.

The synonymy of the plant is as follows:

Malaxis Solandr. ex Sw., Pl. Prodr. 119 (1788).

Anaphora Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 592 (1932); in Fl. Gén. l'Indo-chine 6: 304 (1933).

Malaxis latifolia J. E. Sm. in Rees, Cyclop. 2: *Malaxis* species no 3 (1819).

Dienia congesta Ldl. in Bot. Reg. 10: sub t. 825 (1824); in Wall. Cat. no. 1936 (1829); Gen. & Sp. Orchid. 22 (1830).

Crepidium flavescens Bl., Bijdr. 388 (1825).

Dienia fusca Ldl., Gen. & Sp. Orchid. 22 (1830).

Malaxis plicata Roxb., Fl. Ind. 3: 456 (1832).

Microstylis carnosula Rolfe ex Downie in Kew Bull. 1925: 368, **syn. nov.**

Liparis Krempfii Gagnep. in Bull. Soc. Bot. Fr. 76: 514 (1929), **syn. nov.**

Liparis turfosa Gagnep., l.c. 515, **syn. nov.**

Anaphora liparioides Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 592 (1932); in Fl. Gén. l'Indo-chine 6: 304, fig. 25, 8-13 (1933), **syn. nov.**

Upper Nepal, at Narainhetty where it is called by the inhabitants Natnly, Aug. 2, 1802, F. Buchanan (**type** of *M. latifolia*, not seen); same locality, Wallich (**type** of *D. congesta*, **K**).

Hab. in Zeylona in montibus, Macrae (**type** of *D. fusca*, **K**).

Siam: Doi Sutep, 3000 ft., in open jungle, Aug. 27, 1911, A. F. G. Kerr no. 278 (**type** of *Microstylis carnosula*, **K**).

Annam: massif de Ton-ha-suei, alt. 200 m., Krempf no. 1570 (**type** of *L. Krempfii*, **P**); massif de la Mère et l'Enfant au S. E., prov. Nhatrang, 1500-1700 m., en sol tourbeux, 24. V. 1923, Poilane no. 6822, flowers very young (**type** of *L. turfosa*, **P**); environs de Hue?, Eberhardt (**type** of *L. turfosa*, not seen); col des Nuages près Tourane, Poilane no. 7941 (**type** of *Anaphora liparioides*, **P**); Dran, Hayata no. 823 (**type** of *A. liparioides*, **P**); entre Dak-ha et Dak-kô, prov. Kontum, Poilane no. 18478 (**type** of *A. liparioides*, **P**). Cambodge: Île de Phu-quoc, Contest-Lacour no. 78 (**type** of *A. liparioides*, **P**).

Yunnan: Szemao, A. Henry no. 12336, 12336 C (**K**). Formosa: Bankinseng mountains, fls. yellow, A. Henry no. 835 (**K**). Kwangtung: K. K. Tsoong no. 1979; Wang no. 30925; N. K. Chun no. 41040, 41321, 41654, 42842; H. Y. Liang no. 62252, 63936. Hainan: Wai-Tak Tsang no. 451, fl. in bud; S. K. Lau no. 21823; C. Wang no. 33301; C. L. Tso & N. K. Chun n. 43659; F. C. How no. 71022. Hongkong: Harland, Hance no. 1262 (*Hance Herb.* no. 1057) (**K**).

Distrib.: Sikkim, Khasia, Assam, Lower Burma.

3. DONACOPSIS Gagnep.

Donacopsis is a combination of the vegetative part of *Arundina* and the flower of *Eulophia*. The pollinia in *Eulophia* are two in number, being hollowed at the posterior ends. The anther possesses no appendage. Mentum is present or absent. The inflorescence is a cylindrical loosely flowered raceme. These characters of *Eulophia* all represent in the flower of *Donacopsis*. Thus the flower of *Donacopsis* is undoubtedly referred to that of *Eulophia* and the vegetative part to that of *Arundina*.

The type specimen consists of the vegetative part with leaves apparently at an early stage, lacking roots and a detached single flower kept in an accompanying paper capsule.

The synonymy of the plant is as follows:

Eulophia R. Br. apud Ldl. in Bot. Reg. **8**: t. 686 (1822).

Donacopsis Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 593 (1932); in Fl. Gén. l'Indo-chine **6**: 410 (1933), pro parte, quoad florem.

Eulophia pauciflora Guillaum. in Bull. Soc. Bot. Fr. **77**: 338 (1928).

Donacopsis laotica Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 593 (1932); in Fl. Gén. l'Indo-chine **6**: 410, fig. 36, 16-23, fig. 37, 1 (1933), pro parte, quoad florem.

Indo-chine: probablement Laos, *Massie* (**type** of *E. pauciflora*, **P**); Laos, sans localité, *Massie* (**type** of *D. laotica*, **P**).

Arundina Bl., Bijdr. 401 (1825).

Donacopsis Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 593 (1932); in Fl. Gén. l'Indo-chine **6**: 410 (1933), pro parte, quoad folia.

Arundina chinensis Bl., Bijdr. 402 (1825).

Cymbidium Meyenii Schauer in Nov. Act. Phys.-Med. **19**: suppl. 1: 433 (1843).

Donacopsis laotica Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 593 (1932); in Fl. Gén. l'Indo-chine **6**: 410, fig. 36, 16-23, fig. 37, 1 (1933), pro parte, quoad folia.

Hab. China forte introducta (**type** of *A. chinensis*, not seen). Kwangtung: Macao, Septembri, *Meyen* (**type** of *C. Meyenii*, **BD**). Indo-chine: Laos sans localité, *Massie* (**type** of *D. laotica*, **P**).

Many specimens have been seen from Kwangtung, Hongkong, Kwangsi, Fukien, Formosa, Luchu Islands, Kiangsi, Kweichow, Yunnan, and Szechuan.

4. EPIGENEUM GAGNEP.

This genus Dr. Gagnepain marked to be distinct from *Dendrobium* and *Desmotrichum* in the insertion of petals and lateral sepals to the mentum. The petals are decurrent to the posterior part of the mentum, while the sepals are attached to the anterior part of it and below its apex. He noted also some other characters of it, viz., the one-flowered inflorescence, the spathiform bracts, and the elongate rhizome with numerous pseudobulbus. These points conform well to those of *Sarcopodium*. Thus *Epigeneium* is assured to be a congener of *Sarcopodium*.

Sarcopodium is closely related to *Desmotrichum* Bl. in which the rhizome is always branched and flowers are several in comparison with usually non-branched rhizome and the solitary flowers in *Sarcopodium*. These two genera possess the uniform characters in having root-stocks and real pseudobulbs, while *Dendrobium* has no root-stocks nor pseudobulbs, sometimes the swollen stem looks like pseudobulbs but it possesses one to several scars, the pollinia in the three genera are four in number.

The synonymy of the four species is as follows:

Sarcopodium Ldl. in Paxt., Fl. Gard. **1**: 155 (1850-51).

Epigeneium Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 594 (1932); in Fl. Gén. l'Indo-chine **6**: 264 (1932).

Sarcopodium Clemensiae (Gagnep.) Tang et Wang in Act. Phytotax. **1**: 83 (1951).

Epigeneium Clemensiae Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 595 (1932); in Fl. Gén. l'Indo-chine **6**: 265 (1932).

Epigeneium Delacourii Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 595 (1932); in Fl. Gén. l'Indo-chine **6**: 265 (1932).

Sarcopodium chapaense (Gagnep.) Tang et Wang in Act. Phytotax. **1**: 83 (1951).

Epigeneium chapaense Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 596 (1932); in Fl. Gén. l'Indo-chine **6**: 267, fig. 21, 9-14, fig. 22, 1-2 (1932).

Sarcopodium Fargesii (Finet) Tang et Wang in Act. Phytotax. **1**: 83 (1951).

Epigeneium Fargesii (Finet) Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 595 (1932); in Fl. Gén. l'Indo-chine **6**: 265 (1932); in clavi.

For field data and discussions of their relationships concerning the above three species refer to page 83 of this publication.

5. *EVARDIA* Gagnep.

Dr. Gagnepain compared this genus with *Cheirostylis* Bl. from which he discriminated *Evardia* by the aphyllous habit, by the dorsal sepal not coherent with the petals, by the elevated verruculose stigma, and by the crescent-shaped appendage of the clinandrium. He signified the very short rostellum in *Lecanorchis* Bl., *Aphyllorchis* Bl. and *Stereosandra* Bl. to be a distinct character differing from this genus, but their aphyllous habit is in common. Concerning the superior lip he noted the genus being similar to *Cryptostylis* R. Br. and *Prasophyllum* R. Br., but their leafy habit is markedly different from the epiphyte of this genus concerned. The epiphytic habit, the dorsal sepal incoherent with the petals, the superior lip adnate to the column, the acuminate long rostellum, the two elevated verruculose stigmas and the two crescent-shaped appendages of the column, characters marked out by Gagnepain, appear not to be different from those of *Hetaeria* Bl. *Evardia* is thus congeneric with it.

The habit of *Hetaeria* is either leafy or aphyllous. The triangular acuminate long clinandrium discerned by Gagnepain is suggested to be the rostellum, and the crescent-shaped appendages of the clinandrium morphologically stand for the appendages of the column. The cohesion of the dorsal sepal with the petals in *Cheirostylis* so noted by Gagnepain is really the coalescence of the sepals which in *Hetaeria* are free from one another. Besides the connate sepals *Cheirostylis* is characterized by each of the two stigmas provided with an appendage and by the moniliform root. *Hetaeria* is closely related to *Zeuxine* Ldl. and *Myrmecis* Bl. except that the lip in *Hetaeria* is superior and that of

the latter two genera is inferior, other characters are overlapping. The very small broad-ovate leaves in *Myrmecis* though a vegetative character can be distinguished readily from *Hetaeria*. The erect anther in *Hetaeria* differs from the forward leaning incumbent anther in *Prasophyllum*, *Cryptostylis*, *Aphyllorchis*, *Lecanorchis*, and *Stereosandra*; the anther in *Stereosandra* is however suberect, but its bulbous root alone can be distinguished from *Hetaeria*.

The synonymy of the plant is as follows:

Hetaeria Bl., Bijdr. 409 (1825).

Eurardia Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 596 (1932); in Fl. Gén. l'Indo-chine 6: 580 (1934).

Hetaeria Poilanei (Gagnep.) Tang et Wang in Act. Paytotax. 1: 71 (1951).

Eurardia Poilanei Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 596 (1932); in Fl. Gén. l'Indo-chine 6: 580, fig. 55, 3-9 (1934).

For the field data and the discussion of the relationship, refer to page 71 of this publication.

6. PARHABENARIA Gagnep.

A single type specimen without root, and in an accompanying paper capsule is kept a single detached flower in which the pollinia are inexistent, and the details of the stigma are imperceptible. So far as the general floral appearance and the shape of the rostellum are concerned, the genus seems to be good. Yet as the root, the pollinia, and the stigma partake of the important structures in orchids, more material for further investigations is, therefore, needed.

The citations are as below:

Parhabenaria Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 597 (1932); in Fl. Gén. l'Indo-chine 6: 589 (1934).

Parhabenaria cambodiana Gagnep. in Bull. Mus. Hist. Nat. sér. 2. 4: 597 (1932); in Fl. Gén. l'Indo-chine 6: 589, fig. 57, 9-11 (1934).

Cambodge: région de Kampot, mont Kamchay, A. Chevalier no. 36463 (type, P).

7. SEMIPHAJUS Gagnep.

Dr. Gagnepain considered the genus belonging to *Bletieae* but the eight pollinia in *Bletieae* differ from the four in *Semiphaeus*. He also remarked that the genus has the general appearance of *Phajus* Lour., from which it differs in having four pollinia instead of eight as in *Phajus*, in lacking a true spur and an entire lip having a non-dilated mid-lobe, not embracing the column. When the type specimens were examined by the authors, there appeared in his above discussion two points inappropriate due to Gagnepain's misunderstanding of the features of the genus concerned. These probably

are the reasons which led him to misinterpret the genus. The pollinia in *Semiphajus* are hollowed at the posterior ends which, when pressed, become bilobed; and unless elaborate dissections have been done they look more like two in each cell, then four in all. Thus the number of pollinia in *Semiphajus* is really two, hollowed at the posterior ends. The column of *Semiphajus* being not adnate to the lip, has mentum in *S. Chevalieri*, whereas in *S. Eurardii* none. In *Phajus* the column is slightly adnate to the lip. These points are in common with those of *Eulophia*. Hence *Semiphajus* is congeneric with *Eulophia* R. Br.

The closely related genus to *Eulophia* is *Geodorum* Jacks., from which it differs in the erect more loosely flowered cylindrical raceme in the non-appendaged anther and in the column possessing mentum or not. In *Geodorum* the inflorescence is densely-flowered; nodding and more or less globose head-like; the anther possesses ciliate appendages and the column lacks mentum.

The synonymy of the two species is as follows:

Eulophia R. Br. apud Ldl. in Bot. Reg. **8**: t. 686 (1822).

Semiphajus Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 598 (1932); in Fl. Gén. l'Indo-chine **6**: 300 (1933).

Eulophia nuda Ldl. in Wall. Cat. no. 7371 (1832); Gen. & Sp. Orchid. 180 (1832); Rolfe in Bot. Mag. **132**: t. 8057 (1906)

Cyrtopera plicata Ldl. in Wall. Cat. no. 7362 (1832); Gen. & Sp. Orchid. 190 (1833).

Cyrtopera fusca Wight, Ic. Pl. Ind. Orient. **5**, pt. 1: 11, t. 1690 (1852).

Cyrtopera mysorensis Ldl. in Journ. Linn. Soc. **3**: 32 (1859).

Cyrtopera Gardneri Thw., Enum. Zel. 302 (1861).

Eulophia holochila Coll. et Hemsl. in Journ. Linn. Soc. **28**: 132 (1890), **syn. nov.**

Eulophia Burkei Rolfe ex Downie in Kew Bull. **1925**: 380, **syn. nov.**

Semiphajus Chevalieri Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 598 (1932); in Fl. Gén. l'Indo-chine **6**: 300 (1933), **syn. nov.**

Madras, *Herb. R. Wight Prop.*, (**K**); Peninsula Ind. Orient., Coorg. March. 1852, *Herb. Wight no. 2973* (**K**).

Hab. in India Orientali, in colles Morang, *Hamilton ex Wall. Cat. no. 7362* (**type of Cyrt. plicata**, **K**); same locality, *Hamilton ex Wall. Cat. no. 7371* (**type of Eul. nuda**, **K**).

South India: Mysore, *Law in herb. Stocks no. 56* (**type of Cyrt. mysorensis**, **K**).

Ceylon, *Gardner no. 13* (**cotype of Cyrt. Gardneri**, **K**).

Siam: Doi Sutep, Chiangmai, alt. 3000 ft., May 2, 1910, *Kerr no. 139* (**type of Eul. Burkei**, **K**).

Lower Burma: Pegu, *S. Kurz no. 3247* (**type of Eul. Burkei**, **K**).

Upper Burma: Shan States, *Hildebrand* (**type of Eul. Burkei**, **K**): same region, alt. 4000 ft., May 1888, *H. Collett no. 757* (**type of Eul. holochila**, **K**); Hort. Kew. April and May 1905, flowers showing various shades of colour from rose-purple to delicate pink and very pale green, originally from Shan States, presented to Kew in 1902 by *H. H. Hildebrand* (**type of Eul. nuda** in Bot. Mag. t. 8057, **K**).

Annam: Lang-bian, Dran, savanes incendiées, inondées à la saison des pluies, *A. Chevalier* no. 40598 (type of *Semiphaeus Chevalieri*, P).

Yunnan: Szemao, alt. 4800 ft., *A. Henry* no. 12084, 12084A (K); Mengtze, alt. 5000 ft., *A. Henry* no. 11141 (K, NY), 13700 (K); no precise locality, *G. Forrest* no. 18121, 13816 (K); Chien-shui Hsien, alt. 1430 m., on road side, flowers purple, April 22, 1933, *H. T. Tsai* no. 53272; Ping-pien Hsien, 1300 m., on rocky hill, flowers purple, May 30, 1934, *H. T. Tsai* no. 62001; Shweli Valley, Lat. 25° N., alt. 5-6000 ft., June 1912, *G. Forrest* no. 8186 (K); no detailed field data, alt. 7000 ft., June 1925, *G. Forrest* no. 26739 (K).

Eulophia yunnanensis Rolfe in Journ. Linn. Soc. 36: 29 (1903).

Semiphaeus Evrardii Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 599 (1932); in Fl. Gén. l'Indo-chine 6: 301, fig. 24, 17-21, fig. 25, 1 (1933). **syn. nov.**

Yunnan: Mengtze, rock mountains, alt. 6000 ft., *A. Henry* no. 11125 (type of *E. yunnanensis*, K, **cotype**, NY).

Annam: Lang-bian, Dalat, arboretum, *F. Evrard* no. 1354 (type of *S. Evrardii*, P).

The relationship of *E. nuda* and *E. yunnanensis* is widely apart. Two characters alone, the presence of mentum and the obscurely lobed lip of the former, can readily separate the latter whose column has no mentum and lip is very slightly contracted above or at the middle of it.

8. *Thylacis* Gagnep.

This genus Dr. Gagnepain considered to be distinct from certain species of *Dendrobium* Sw. in the sect. *Bulbodium* in the column lacking mentum, in the four pollinia in two series or in two pairs, one in each anther-cell, and in the *Cypripedium*-like lip; the four pollinia is a character in common with *Dendrobium*. Having checked the type specimens the authors found out that these characters as he noted are due to his inaccurate observation. His conception of *Thylacis* in relating to *Dendrobium* was probably his primary mistake since the more or less pseudobulb-like stem alone in *Dendrobium* is a character quite different from this genus. His other misapprehensions which should be rectified are: the column possessing a conspicuous mentum; the two hollowed pollinia (or biparted), one in each cell, and the lip being unlike *Cypripedium* L., only the large sac looks like the pouched lip of *Cypripedium*, but differs from that genus in details. These points make the authors realize the fact that *Thylacis* is really a synonym of *Thrixspermum* Lour.

Thrixspermum is akin to *Aerides* Lour. and *Micropera* Ldl. from which it differs in the inconspicuous rostellum and the short caudicle, while in the latter two genera the rostellum is long and the caudicle is longer.

The synonymy of the two species is as follows:

Thrixspermum Lour., Fl. Cochinch. 2: 634 (1793).

Thylacis Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. 4: 599 (1932); in Fl. Gén.

l'Indo-chine **6**: 302 (1933).

Thrixspermum Fleuryi (Gagnep.) Tang et Wang in Act. Phytotax. **1**: 92 (1951).

Thylacis Fleuryi Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 600 (1932); in Fl. Gén. l'Indo-chine **6**: 304 (1933).

Thrixspermum Poilanei (Gagnep.) Tang et Wang, l. c.

Thylacis Poilanei Gagnep. in Bull. Mus. Hist. Nat. Paris sér. 2. **4**: 600 (1932); in Fl. Gén. l'Indo-chine **6**: 302, fig. 25, 2-7 (1933).

For field data and notes concerning these two species see page 92 of this publication.